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Time and location: 11am-12pm on Friday, April 1st, 2022 in Zoom (contact the department for the link)

Title: AI for Health Equity

Abstract: Persistent health inequities exist in the United States. For example, minority subpopulations experienced higher death rates due to COVID-19. In this talk, we examine how AI can help detect and address health inequities. Inspired by ML Fairness, we develop metrics for understanding when a health data set is not representative of a target population. We use these metrics to detect potential inequities in randomized clinical trials. We combine these techniques with integer programming to design equitable enrollment plans for new clinical trials. Then we look at the problem of fairness in synthetic health data. Synthetic health data can enable reproducible AI research while preserving patient privacy. But if synthetic data is not representative of minority populations, then the resulting AI analysis and models may be biased exacerbating inequalities. AI researchers need to consider representativeness and bias throughout the AI pipeline to ensure that AI and health methods generalize to the desired populations in the real world.

Speaker's bio sketch:

Kristin P. Bennett is the Associate Director of the Institute for Data Exploration and Application and Professor in the Mathematical Sciences and Computer Science Departments at Rensselaer Polytechnic Institute. Dr. Bennett brings over 30 years of research experience in artificial intelligence, machine learning, and their applications to problems in health, science, and industry. Her research specialty is working with people with problems and data and then developing novel machine learning and AI models and methods to solve these problems. She has led many machine learning research science research projects in health, bioinformatics, cheminformatics, manufacturing, finance, and public health funded by NIH, NSF, foundations, and industry. She currently works in emerging research areas such as health equity, ML fairness, and synthetic health data. She founded and directs the Data INCITE Lab which provides a low barrier pipeline for undergraduate students into data analytics careers starting with one innovative course followed by research experiences on open real world problems for clients.